

Amendments to the Claims:

Please amend claims 13, 16, 17 and 19-27 as indicated below.

Please add new claims 28-32 as presented below.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (withdrawn):

Claim 13 (currently amended): A method for operating a microscope, comprising the following steps:

- providing at least one transparent specimen support unit being associated with a specimen and a reference specimen, the reference specimen including at least one planar area having a defined structure of known configuration,
- detecting the at least one reference specimen of known configuration using light microscopy, and
- calibrating, aligning or adjusting the microscope on the basis of the detection ~~by light microscopy.~~

Claim 14 (original): The method as defined in Claim 13, wherein the reference specimen is detected by an image acquisition, thereby making possible an unequivocal association of the position and orientation of the reference specimen.

Claim 15 (original): The method as defined in Claim 13, wherein the microscope is a confocal scanning microscope.

Claim 16 (currently amended): The method as defined in Claim 15 wherein the reference specimen is detected by a scanning operation, thereby making possible an

unequivocal association of the position and orientation of the ~~reference specimen~~
defined structure.

Claim 17 (currently amended): The method as defined in Claim 16 wherein a two-dimensional optical section is performed as the scanning operation and the optical section is oriented perpendicular to the at least one planar area.

Claim 18 (original): The method as defined in Claim 13, wherein the microscope is a double confocal scanning microscope.

Claim 19 (currently amended): The method as defined in Claim 18 the reference specimen is detected by a scanning operation, thereby making possible an unequivocal association of the position and orientation of the ~~reference specimen~~ defined structure.

Claim 20 (currently amended): The method as defined in Claim 19 wherein a two-dimensional optical section is performed as the scanning operation and the optical section is oriented perpendicular to the at least one planar area.

Claim 21 (currently amended): The method as defined in Claim 13, wherein ~~the~~ image data of the reference specimen are evaluated in computer-assisted fashion.

Claim 22 (currently amended): The method as defined in Claim 13, wherein on the basis of ~~the~~ detected image data of the reference specimen, ~~conclusions are drawn as to~~ its position or orientation relative to the detected specimen region are determined.

Claim 23 (currently amended): The method as defined in Claim 13, wherein by comparing detected image data of the reference specimen to previously detected image data, ~~conclusions are drawn as to the~~ a drift of the specimen or the specimen support unit are determined.

Claim 24 (currently amended): The method as defined in Claim 23, wherein a the drift of the specimen is compensated for by a corresponding motion of the specimen support unit.

Claim 25 (currently amended): The method as defined in Claim 23, wherein a the drift of the specimen is compensated for using methods of digital image processing.

Claim 26 (currently amended): The method as defined in Claim 18, wherein on the basis of the detection of the reference specimen, optical beam path segments, ~~in particular their path length differences,~~ and the positions of ~~the~~ objectives of the microscope are calibrated and aligned.

Claim 27 (currently amended): The method as defined in Claim 13, wherein for automatic location or focusing of the specimen, the specimen support unit together with the specimen is moved along the optical axis of ~~the~~ objective or objectives of the microscope, and in that context the light coming from the at least one planar area is detected.

Claim 28 (new): The method as defined in Claim 13, wherein on the basis of the detection of the reference specimen, path length differences of optical beam path segments and the positions of objectives of the microscope are calibrated and aligned.

Claim 29 (new): The method as defined in Claim 13, wherein the at least one planar area includes a texture.

Claim 30 (new): The method as defined in Claim 29, wherein at least one of the texture and the defined structure of the at least one planar area has an asymmetrical configuration.

Claim 31 (new): The method as defined in Claim 13, wherein the at least one planar area includes at least one of a coating and a holographic impression.

Claim 32 (new): The method as defined in Claim 31, wherein the coating is at least one of reflective and luminescent.